DOCUMENT RESUME

ED 436 674 CE 079 546

AUTHOR	Carlberg, Ann; Johansson, Marlene; Lundqvist, Bert Owe
TITLE	Craft and Design Slojd. The Work Processes in Craft and Design--Working Methods and Knowledge. Report No. 58.
INSTITUTION	National Swedish Board of Education, Stockholm.
ISSN	ISSN-1103-2421
PUB DATE	1994-12-00
NOTE	55p.
AVAILABLE FROM	Department of Hand Craft and Home Economics, Goteborg University, Box 12204, S-40242 Goteborg, Sweden (100 Swedish krone).
PUB TYPE	Collected Works - Serials (022) -- Reports - Research (143) -- Tests/Questionnaires (160)
JOURNAL CIT	National Evaluation of the Swedish Comprehensive School; Spring 1992.
EDRS PRICE	EDRS Price MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	Design; *Design Crafts; Educational Benefits; *Educational Practices; Foreign Countries; Grade 9; *Handicrafts; High Schools; *Integrated Curriculum; National Surveys; Questionnaires; Student Attitudes; Teacher Attitudes; Teacher Student Relationship; Teaching Methods; *Vocational Education
IDENTIFIERS	*Sloyd Education; *Sweden

ABSTRACT

Sloyd (craft and design) education in Swedish comprehensive high schools was examined in a national evaluation. During the first phase of the evaluation, questionnaires were completed by 1,314 grade 9 students and 101 teachers. For a 10-week period, 200 of those students and their teachers kept diaries describing their work in craft and design. In addition, 182 of the 200 students completed a second questionnaire that asked them to summarize their sloyd activities, share their views on craft and design, and discuss what their craft and design work taught them. As in the national survey, the students who kept diaries and responded to the second questionnaire acknowledged feeling engagement and joy in craft and design activities where they were given the opportunity to use their creativity. They perceived the knowledge gained during craft and design activities as useful to their personal development and their readiness to act in the future. The craft and design experience proved most effective when students had a real influence on the entire activity, from the idea and planning stages to valuation of their work. Students emphasized the importance of teachers being open to students' thoughts. (Sixteen tables/figures are included. The second student questionnaire is appended.) (MN)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 436 674

THE NATIONAL EVALUATION OF THE SWEDISH COMPREHENSIVE SCHOOL
■ SPRING 1992 ■

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE AND IN ELECTRONIC MEDIA FOR ERIC COLLECTION SUBSCRIBERS ONLY, HAS BEEN GRANTED BY

M Johansson

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

2A

CRAFT AND DESIGN SLÖJD

The work processes in craft and design - working methods and knowledge

The Swedish Board of Education, report no 58

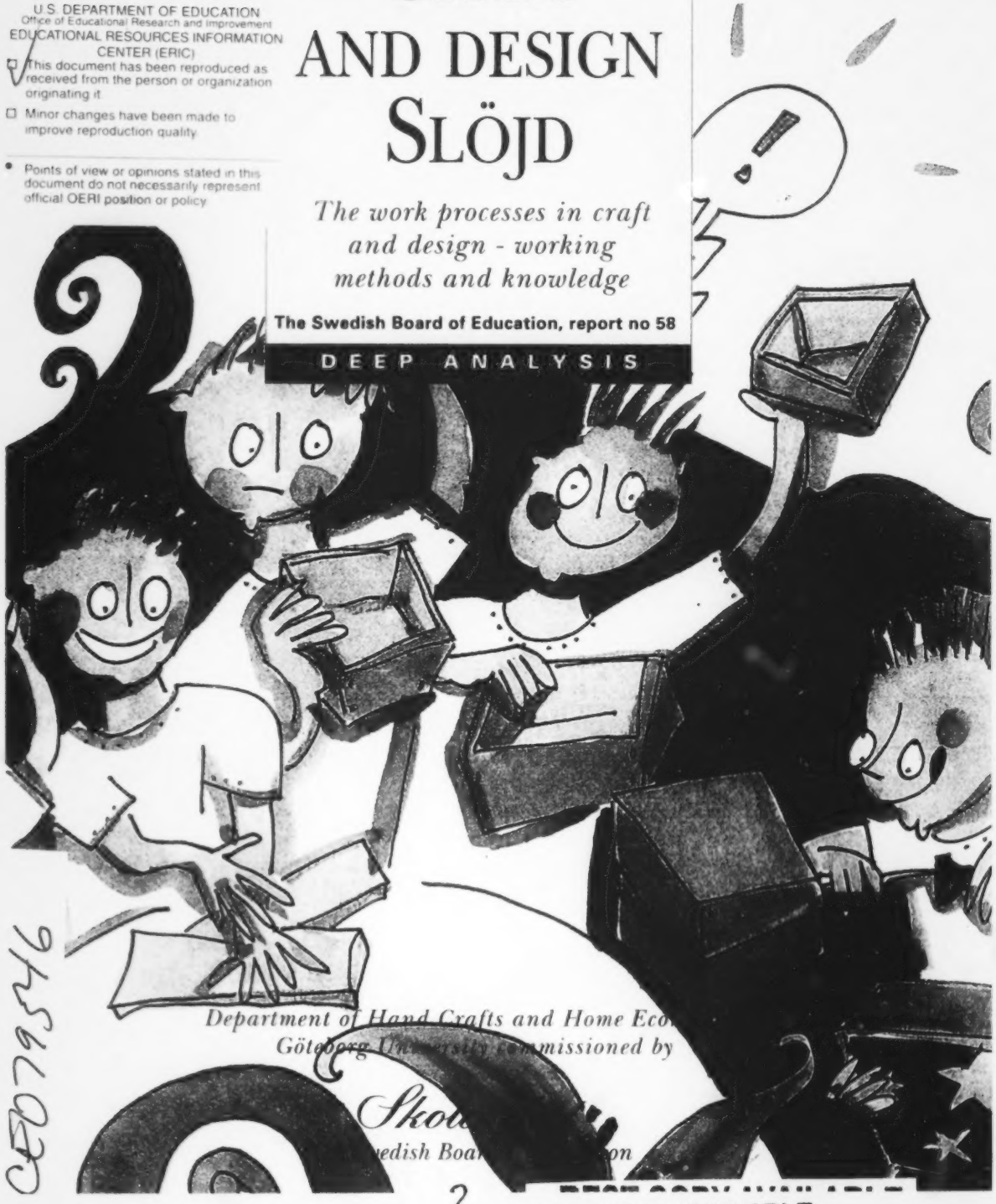
DEEP ANALYSIS

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.



Department of Hand Crafts and Home Eco
Göteborg Uni[illegible] *commissioned by*
Skol
edish Boa[illegible]*on*

ED 379546

BEST COPY AVAILABLE

The work processes in craft and design

- working methods and knowledge

Report no 58

SUMMARY

In this deep and comparative analysis of the national evaluation of craft and design, different working methods and opinions about knowledge have been illustrated. The evaluation shows the complex and many-sided character of the teaching in craft and design and how the cooperation between students and teachers influences the perception of participation in the work processes.

WORDS OF SUBJECT

National evaluation, working methods, opinions about knowledge, craft and design.

Trade orders to
Liber Distribution
Publication Service
S-162 89 Stockholm
Sweden
Phone: +46 (0)8 690 95 76
Telefax: +46 (0)8 690 95 50
Order code: 94:108
ISSN: 1103-2421
ISNR: SKOLV R —58—SE

Design: Misse Josefsson, 2 st AB
Cover: Lotta Dale
Printer: Katarina Tryck, Stockholm 1994

This report may be copied.

4

Preface

The national evaluation of craft and design was carried out in the comprehensive school, grade 9, during spring 1992. This report is a deep and comparative analysis of Questionnaire 2 based on the results from Questionnaire 1 and the Teachers questionnaire and of a broader analysis of students' and teachers' Diary notes on craft and design. The report has been compiled at the Department of Hand Crafts and Home Economics (IHU), Göteborg.

We want to thank all the students and teachers who have expressed their thoughts and ideas in questionnaires and diary notes.Thanks to their assistance we have received a large and rich material. Many thanks to our scientific advisor, professor Roger Säljö, for valuable discussions and intelligent advice. He has also contributed to the final wording of this document. A special thank you to the computer technician of the department, Svante Eriksson, who helped us find the way among all the figures, and to Lotta Dale who illustrated the report.

Göteborg, December 1994

Ann Carlberg
Marléne Johansson
Bert Owe Lundqvist

Contents

INTRODUCTION. 5

THE WORK PROCESSES IN CRAFT AND DESIGN. 7

To Choose - To Plan - To Carry Out - To Evaluate 7

RESULTS 9

Questionnaire 1 and Teachers questionnaire 9
Diary notes 10
Questionnaire 2 12

ANALYSIS - REFLECTION - PROBLEMS. 24

DEEP AND COMPARATIVE ANALYSIS. 26

About working methods - Possibilities to influence -
Contributory influence - Knowledge 26
Planning 26
Possibilities to influence 29
Knowledge - Readiness to act 30
Types of teaching 33

DISCUSSION. 41

REFERENCES 46

APPENDICES

Questionnaire 2 47

BEST COPY AVAILABLE

Introduction

Teaching in craft and design takes place all through the comprehensive school under one, common heading: slöjd. Craft and design include textile craft and woodwork and metalwork. The evaluation of craft and design within the frame of the National Evaluation (NU) was carried out in grade 9 during spring 1992. The material consists of **Questionnaire 1,** a **Teachers Questionnaire** and a process study carried out with the help of **Diary notes** and a follow up survey, **Questionnaire 2**. 101 teachers answered the Teachers questionnaire. Of the 1,314 students who answered Questionnaire 1, 200 students and their teachers wrote diaries during a ten week period describing their work in craft and design. 182 of those 200 students also answered Questionnaire 2. The main results from the survey are presented in "Craft and design in school. **The main report. The Swedish Board of Education, report no 24** (1993)". Parts of the results of the analysis of the Diary notes were presented in the craft and design main report. A deep analysis of the teachers' and students' diary notes are presented in the report **"The work processes in craft and design. The work in the classroom for craft and design. Diary notes"** (Johansson, 1994).

The goals of the curriculum in Lgr 80 and the contents of the main items were the basis for the construction of the evaluation instruments. The evaluation had as its purpose to get a good picture of how the intentions of the curriculum were expressed in the teaching in craft and design and to get an idea of the students' knowledge, skills and attitudes. The empirical studies were carried out in the same way independent of the type of craft. Of the 1,314 students 641 had had textile craft and 673 woodwork and metalwork. The inquiries had been answered with great interest and the non-response was only that of the normal absence. All of the 200 students have in their diary notes described their teaching in craft and design during a ten week period. The teachers' diary notes were written at their own initiative. Only one of the teachers refrained from writing a diary. The material that has been collected through inquiries and diaries is large and gives valuable

possibilities for further analysis.

In the present report the results from a deep and comparative analysis of parts of Questionnaire 2 are presented and compared to the results of Questionnaire1,TheTeachers questionnaire and The diary notes. Questionnaire 2 has been answered by the students directly after the ten week period of diary notes. In this final questionnaire the students had the possiblity to answer questions about the teaching and the work process in craft and design in direct connection to the work carried out. This makes it possible to make a special study of the smaller group of teachers and students who participated in all evaluation instruments. In this report this group is called "the diary group".

By making a special study of the diary group we have had the opportunity to analyse the following questions:

How can we through deeper and comparative analysis of the different evaluation material make the students' and teachers' participation in the work processes in craft and design more distinct?

Are there differences in various working methods within the diary group and if so, how do they influence the possibilities of learning which are created in the craft and design?

Do the perceptions of knowledge differ in the various craft and design groups?

Which intervariation does different working methods have in relation to the result of the craft and design work when it comes to knowledge, skills and attitudes?

The work processes in craft and design

TO CHOOSE - TO PLAN - TO CARRY OUT - TO EVALUATE

In the report "Craft and design in school. The Main report. The Swedish Board of Education, report no 24" (1993) the work processes in craft and design are described from four stages: To Choose - To Plan - To Carry Out - To Evaluate. These stages are dependent of and interact with each other throughout the whole process.

fig. 1 | **The work process in craft and design.**

Craft and design work is by nature a process where it is possible to start from the students' own ideas and suggestions. The idea is the basis for continued planning and performance.

The process is finished with the evaluation of the result, the concrete object and the student's own work contribution. In this process the interaction and cooperation between teacher and student must function in a way that makes it possible for the student to train his skills in thinking, discussing and solving problems even in unfamiliar situations.

The interaction between student and teacher becomes important in a creative process where the idea is the starting-point. The way the interaction functions determines the continuing work. The work is done in a location which is unique for the school. There are machinery, tools, equipment that expect each student to take a personal responsibility in many areas but also demand consideration for others. To give a fellow student a hand, to help with holding, laying out or giving advice become a natural part of the work.

The work process in craft and design is built on activity and interest, an activity that is heard and felt, where there is life and motion and opportunities to talk to each other. Talking and working at the same time is especially valuable according to the students' comments in the main report. It makes work in the craft and design room more like the situation the students see outside school. The students' interest is based on the wish to realise an idea. The interest is strengthened in the process when the student can see how the work grows and when he/she makes new choices, new decisions all the time. The professional teacher in craft and design is the one who utilizes, strengthens and guides the activity and interest.

In the carrying out stage, the student acquires through his/her creative work a knowledge of the tools, equipment and machinery as well as the methods necessary for carrying out the project. The student is also trained to understand written instructions and to interpret drawings. During the process there is a continuous, natural and necessary communication between teacher and students, and the student is given the opportunity to reconsider his/her decisions.

The process is completed with an evaluation of the result, where the student is taught to evaluate his/her own and the other students' work together with teachers and friends. The final evaluation gives the student opportunity for reflection.

Students' and teachers' opinions about participation in the work process in craft and design are shown in the main report on craft and design in school (The Swedish Board of Education 1993) and in the report on diary notes (Johansson, 1994). The report on the diary notes is an enlarged and deeper analysis of the diaries written by teachers and students during a ten week period. The students' and teachers' own words express different opinions about participation in the work process in craft and design. This qualitative study completes the results from the questionnaires in the big survey.

BEST COPY AVAILABLE

Result

QUESTIONNAIRE 1 AND THE TEACHERS QUESTIONNAIRE

The results in the report "Craft and design in school. The Main report. The Swedish Board of Education report no 24" (1993) show that in general the students have very positive attitudes towards craft and design. They find craft and design stimulating and at the same time important. More than 80 % of the students claim that they feel they have had an opportunity to engage in creative activities in the context of the teaching. The students feel that there is an immediate functional value of the knowledge and skills acquired also in contexts outside school. The students think that they have knowledge enough to deal with several real life situations and they have a deep belief in the importance of this knowledge for their future economy. They feel that craft and design teach them to work independently, to solve problems on their own and feel joy in producing things themselves. The general picture leads to the conclusion that many of the goals of the curriculum are implemented. Craft and design is one of the subjects where the students feel that they have a possibility to influence the school activities and they even feel that they have a great influence on the contents of the subject.

The picture given by the students is confirmed by the teachers and views on the cooperation with the students are on the whole very positive. A clear majority of the teachers claim that the students' interests and previous knowledge are taken into consideration when planning the activities. The students are also perceived as highly motivated for craft and design and the goals of the curriculum are both realistic and relatively clear as far as teaching craft and design is concerned. The most serious shortcomings mentioned concern the limited time devoted to the subject and that the resources for helping students in need of special attention and instruction are too small. The teachers also have a great need for in-service training.

The study strongly supports the claim that craft and design is an

important resource for the Swedish school. Many of the objectives of the curriculum on how teaching should be organised can be implemented in the practice of craft and design in school. The contributions from craft and design in these respects seem important.

THE DIARY NOTES

In the report "The work processes in craft and design. The work in the classroom for craft and design. Diary notes." (Johansson 1994) the results from students' and teachers' diary notes from craft and design are presented. The purpose of the diary writing was to give a better and more varying picture of the work in the classroom for craft and design through the students' and teachers' own words, to evaluate the work process in craft and design and to let student and teacher describe the normal craft and design teaching during a regular ten week period without putting the students in a test situation. The students described what they had done, what problems they had encountered and how they had solved them, how they felt and what they thought their feelings depended on. The diaries became a self-reflection of their own work. Solution of problems , perceptions of knowledge, feelings of participation in the work process, comfort and well-being, emotional experiences, interaction patterns and thoughts about diary writing were described in the diaries. In the groups where the students were allowed to work from their own ideas, the diaries show a more positive attitude to craft and design and the solution of problems are described more detailed than in the groups where the students work from ideas given to them by the teachers.

The 200 students in the diary group are divided as follows:

- 15 groups of which seven (7) are woodwork and metalwork (T/M) and eight (8) are textile craft (T).
- 102 students take woodwork and metalwork (92 boys and 10 girls) and 98 students take textile craft (15 boys and 83 girls).
- In the diary report the schools are designated by the letters A, B1, B2, C, D, F, and G.
- 14 teachers have written diaries with teacher's comments, school B1 and B2 have the same teacher in textile craft.

Some groups have craft and design classes every other week and some lessons are not held due to holidays, sport days, etc. This apart all the students have written a diary and those missing can be explained by the normal absence in class. In total the diaries consist of documentation from 1,614 occasions (Johansson, 1994, page 3-4).

By tradition most girls have chosen textile craft and most boys have chosen woodwork and metalwork. Some groups consist of only boys or girls while other groups are more or less evenly mixed. If the differences in result presented below should be attributed to the distribution by sex or to differences between types of craft and design is not clear. In the woodwork and metalwork teaching the work process is described more detailed than in the textile craft. A slightly less positive attitude to craft and design is noted in the textile craft groups, but if this difference is due to sex differences, the character of the teaching in the two types of craft and design or to differences in the interaction between students and teachers, is impossible to decide from the diaries (Johansson, 1994, page 52).

The diaries are characterized by the feeling that the students enjoy craft and design. The teaching and the diary notes differ quite a lot between schools/teachers:

School A: In the T/M group the students are very laconic. All of them work with a task given to them by the teacher (knives, sheaths). The teacher describes in detail the goals of his/her teaching in craft and design.

School A: In the T group the students also use few words, a little about the solution of the problem, mostly about negative interaction with the teacher. Almost all of them work with the same task given to them by the teacher (baby overall, embroidery sample, weaving). The teacher describes in detail the goals of his/her teaching in craft and design.

School B1: In the T/M group the students describe in detail solutions of problems, own ideas, valuation and they write positively about well-being and interaction. The students work with completely different pieces of craft (shelf, cupboard, clock, amplifier, cassette rack). The teacher writes quite a lot and positively.

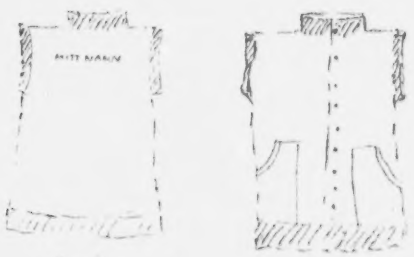
School B1 and B2: In the T group (different articles of clothing) the students write a lot about solutions of problems and also both positively and negatively about well-being and interaction. The teacher also writes both positively and negatively (stress) about the group and about individuals.

In the present report the different opinions and views which the different groups have expressed in the diaries are presented more detailed. We also compare these results with the questionnaires and parts of the rest of the material.

QUESTIONNAIRE 2

After the ten week period of diary writing, the students have answered a smaller inquiry, Questionnaire 2. This is meant to be a summary of what the students have done, what they have learnt and what they have experienced in craft and design class. The difference in the construction of Questionnaire 1 and Questionnaire 2 is that in the latter the questions can be directly connected to the diary notes and the work the students have done or are doing. The students have the possibility to take out their diary notes and use them as support for the memory when filling in the questionnaires. Below is a presentation of the students' answers. The first task for the students was to make a sketch of the object and to describe what they had done:

Make a sketch of your product:



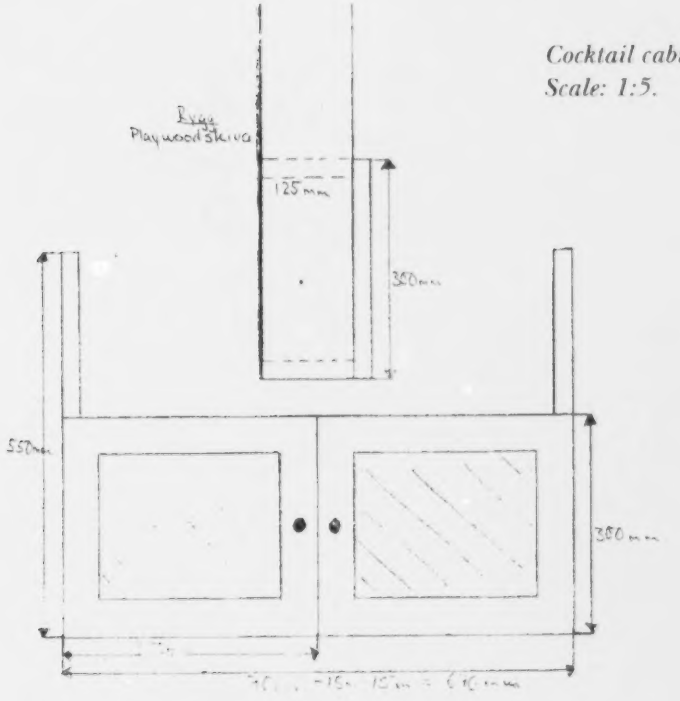
Back *Front*

Describe what you have done: *a vest with wristlets where the dashed lines are. High polo neck. Side pockets and my name written by computer on the back. (T girl)*

A knitted sweater

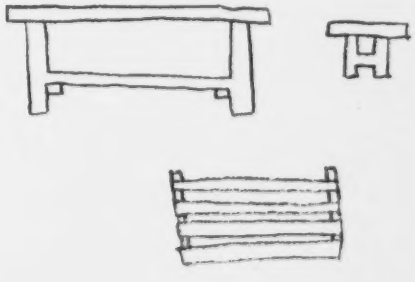
Describe what you have done: *a pair of shorts and a knitted sweater (T girl)*

BEST COPY AVAILABLE



Cocktail cabinet.
Scale: 1:5.

Describe what you have done: *I have sawed out boards and marked the boards for the doors where the glass is to be fitted. After that I have nailed them together and glued. (T/M boy)*



Describe what you have done: *I have planed, sawed and measured and also polished my shoe rack. (T/M boy)*

BEST COPY AVAILABLE

In text and picture the students describe their work. Some students write very detailed about the work process, while others describe what they have done in few words. In the main report the differences between the different types of craft appeared already at the planning stage. These differences can be seen in the students' drawings. In woodwork the student often makes his/her own sketch sometimes in different perspectives and to scale. In textile craft they usually work from ready-made patterns and work descriptions. When sketches are made in textile craft they are mostly outlines of ideas. In this report texts and pictures are not deeper analysed, but there is material for further studies. In the main report on craft and design the result shows that the idea has a central role for the quality of the future work.

In the main report on craft and design the work process is described as divided into four stages: To Choose - To Plan - To Carry Out - To Evaluate. The results from the analysis of the interaction between and value of theses stages show that the first stage, to choose and have one's own idea, to be able to influence and be part of the process from the very beginning, has an enormous significance for the student's experience and total development of the work process in craft and design. The result shows that the idea has a central role for the quality of the future work (p. 14-16, 29-30). In Questionnaire 1 the students are asked how they in general perceive their influence on planning and content as well as how much they can influence the teaching in craft and design. In order to study the students' feelings of participation at the start of the working process, two questions were included in Questionnaire 2, questions about who had the idea and who decided what to do. In the special situation where the student directly is able to relate these questions to his/her own work in progress, it becomes very interesting to see the student's immediate experience of co-determination.

A work most often starts from an idea. How did you get your idea to your product?

Does the student have his/her own idea? Is it the teacher who has one or several ideas to choose from? Or does the teacher suggest a certain theme? The studen may have got his/her idea from a friend or from somebody at home. A magazine or a book can also generate an idea.

How did you get your idea to your product?
HUR FICK DU IDÉN TILL DITT SLÖJDARBETE?
JAG HADE EN EGEN IDÉ
I had my own idea
37%
The teacher had an idea
LÄRAREN HADE EN IDÉ
21%
The teacher had several ideas to choose from
LÄRAREN HADE FLERA IDEER ATT VÄLJA MELLAN
18%
The teacher suggested a theme
LÄRAREN FÖRESLOG ETT ARBETSOMRÅDE
13%
A friend had an idea
EN KAMRAT HADE EN IDÉ
3%
I got my idea from a magazine/book
EN TIDNING/BOK GAV MIG EN IDÉ
16%
Somebody at home gave me an idea
2 %
NÅGON HEMMA GAV MIG EN IDÉ
2%

fig. 2 | **Questionnaire 2, How did you get your idea to your product?**

BEST COPY AVAILABLE

The result shows that 37 % of the students mean that they worked from their own ideas, while 21 % say the teacher gave them the idea. That the teacher had several ideas from which the students could choose or that he/she suggested a theme is mentioned by 30 %. Only 5 % of the students say that a friend or somebody at home gave them their ideas. A magazine or a book are noted by 16 % of the students as the source of inspiration. It is interesting to see how the students perceived their participation in the decision of the continued work. Therefore the following question was made:

Who decided what you should do?

fig. 3. **Questionnaire 2, Who decided what you should do?**

In spite of only 37 % of the students answering that they got their own ideas, 79 % of them made their own decision. The high values concerning the students' right of co-determination are in line with previous results from the main report which emanate from the large, nation-wide sample. In this the students feel that in craft and design they can decide

BEST COPY AVAILABLE

content and what to work with to a larger degree than in any other subject in school. Concerning teaching in craft and design there is a difference of opinion between the students taking textile craft and those taking woodwork and metalwork. The students in woodwork and metalwork feel that they have a larger influence on the teaching.

How are work forms and knowledge influenced when the teacher has an idea and makes the decision compared to when the student has his/her own idea and is allowed to decide for him/herself? Since the questions in Questionnaire 2 all the time are related to work that is close in time for the student, the question regarding factors governing and limiting the choice for design was made. Did the time factor have any importance? How does the student look at the aspects of utility and learning? Does the degree of difficulty when it comes to "looks" have any importance for the student's choice or does the student only choose what is easy and fun?

What is important at the choice of work?

	Very important %	Important important %	Less important %	Not %
It was fun	*41*	*40*	*11*	*3*
I learnt something new	*20*	*43*	*24*	*12*
It was something I needed	*20*	*36*	*25*	*12*
The work was quick	*4*	*8*	*47*	*35*
The work was easy	*3*	*13*	*51*	*26*
The work looked good	*30*	*46*	*13*	*4*

fig. 4 **Questionnaire 2, The students perception of what is important when choosing.**

It is very important that the product looks good, that it is something the student needs, and that it is fun to make. The values in Questionnaire 2 are in accordamce with the results in the main report. Please, observe that the students do not consider ease and quickness to be so important.

What did you do during the planning of your work?

To this question the students had to answer whether they had used their own sketch, drawing, pattern or it they had used a prepared sketch, drawing, pattern or picture. 53 % of the students answered that they used their own sketch and 40 % that they used a prepared sketch. When the values are divided according to craft, woodwork and metalwork use their own sketch more often than textile craft does.

Own sketch

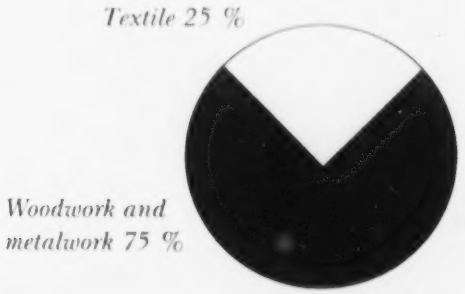


fig. 5 **Questionnaire 2: The students perception of the use of prepared or one's own sketch.**

The result shows large differences between the crafts. In textile craft one usually works from ready-made patterns and work descriptions . An article of clothing must fit a certain size, thus one starts from the pattern and then makes the necessary changes. In woodwork and metalwork one starts from a sketch which the student has made (see page 12-13). Is the textile craft governed by the supply of ready-made patterns and work descriptions available? How does this influence working methods and results?

Describe the problems you encountered during work.

Here the students were allowed to describe in their own words the problems they encountered and how they solved them. All answers were read and could be described with the help of four categories. 26 % did not consider themselves to have had any problems. Where problems occurred, they were connected to performance, work or technique (40 %). Other problems concerned machinery and tools (11 %) or the material such as wood, textile fabric, thread, etc (14 %).

How did you solve these problems?

In the diary notes one can more in detail follow the students ways of solving their problems. In Questionnaire 2 the students have to decide whether they solved their own problems or if they solved them together with somebody else. Almost half of the students (41 %) solved their own problems. Some (19 %) discussed with their teacher and solved the problem, while others discussed the problem with a friend or a parent. 14 % say that the teacher solved their problem. The study shows that 71 % of the students think that their planning is in accordance with the final result.

The diaries clearly show that the students enjoy classes in craft and design. In Questionnaire 2 almost all of them (81 %) declare that they enjoy those classes. In this questionnaire the students have the opportunity to describe more in detail what they perceive as positive and negative, which factors are important for the well-being.

Which of the following statements are in accordance with your own perception of craft and design?

The students had to make up their minds about 15 different statements, which partly are the same as the questions in Questionnaire 1. These statements can be divided into three different areas:

* **External conditions**
* **Social and communicative processes**
* **Perception of the work process in craft and design**

The area of external conditions can apply to the furnishing and the equipment of the classroom for craft and design and the supply of material. Most students (80 %) feel that craft and design has well equipped rooms and ample supplies. This feeling is not shared by the teachers. Poor classrooms and equipment as well as lack of material limit the possibilities to reach the goals of the curriculum, according to the teachers in the Teachers questionnaire.

Feeling safe, being able to take one's own initiative, talking and working at the same time and a good atmosphere in craft and design can be the summary of the common features within the frames of social and communicative processes. The results very much agree with the result presented in the main report (page 29-33). To be allowed to work and talk at the same time is regularly mentioned as an important factor for the well-being in craft and design.

In Questionnaire 2 the students also answer the question how they themselves follow the stages of the work process, how they perceive the

importance of being allowed to solve real problems, to take responsibility for their own work, to carry out an idea and to work at their own pace. Since the students in this questionnaire all the time can refer to their own product, they also receive the question whether the object they worked with was something that they needed. 45 % thought that it was something they needed, while 27 % thought that it was almost so. The results strengthen the picture received from the analysis of the main report and the diary notes, where the student's work in craft and design is shown to be bound by close ties to the world both inside and outside school.

fig. 6 | **Product and process.**

The product is "visible". The student works on it in the classroom and can later on bring it home, use it, give it away or save it as a "product of culture" for the future. The process the student has gone through is a knowledge and readiness to act which he/she brings along into new situations. The knowledge the student receives through product and process is what we call knowledge of craft and design. The results from Questionnaire 1 in the main report show that the students feel that this knowledge is important for the future (The Swedish Board of Education 1993, page 26). In the diary notes the students clearly describe the value of product and process (Johansson, 1994).

The students have the opportunity at the end of Questionnaire 2 to reflect on their craft and design work and their diary notes in order to come to a conclusion as to what they have learnt. They can also decide whether the diary notes have made them more observant of what they have done, what they have learnt and what they have experienced in the course of the work.

If you look back at your craft work with the help of your diary notes, what do you think that you have learnt?

	Well able %	Fairly able %	Uncertain able %	Not %
To be able to plan and carry out a similar piece of work on my own	*35*	*53*	*11*	*1*
To understand instructions, drawings and patterns	*39*	*48*	*12*	*1*
To use tools, equipment and machinery	*47*	*47*	*5*	*1*
To create own ideas	*42*	*43*	*12*	*3*
To carry out my ideas in practice	*30*	*57*	*10*	*2*
To solve problems that occur in the course of the work	*29*	*57*	*13*	*0*
To choose the right material	*26*	*50*	*22*	*3*

fig. 7 **Questionnaire 2, The students perception of what they have learnt.**

The questions are similar to the ones in Questionnaire 1 and the values coincide on several points. The difference in this questionnaire is that the question is put to them after ten weeks of craft and design work. The results are gratifying and show that most of the students consider themselves to have got a good readiness to act. It is interesting to find in this study which students are not able or doubtful concerning what they have learnt. Where are these students?

Since the students in grade 9 of the comprehensive school receive a final grade in craft and design, it was of interest to ask the student if

he knew how the teacher judges the result and grades. The grade in craft and design may be an expression of a complicated combination of various assessments. On one hand the quality of the visible result, the craft piece, is judged, on the other the process is evaluated, i e how the student has acted from idea to product. Here the student's ability to take initiative , to work independently, to solve problems and to take responsibility has been evaluated. There are several competences which influence the result of what we call knowledge of craft and design. With respect to the various basis for the judgement when grading craft and design it was also interesting to clarify which students felt themselves to be judged fairly.

Has your teacher discussed with the group in which way he/ she judges results and grades them?

Do you feel that you have been judged fairly?

Only 36 % of the students answer that the teacher has discussed with the students his/her way of judging results and grading them. 68 % of the students who have discussed grading with their teacher feel that they have been judged fairly compared to 43 % of those who did not have this discussion. 14 % feel unfairly judged after discussion with the teacher compared to 23 % of those who did not have any discussion. Summing up the results shows that the students who discussed grading with their teacher felt more fairly judged. Can a discussion between students and teacher about the criteria the teacher has as a basis for the grading give an increased awareness of what is judged and thereby increase the student's perception of a fair grade?

In the diary notes there are both positive and negative comments to the writing of diary notes. The teachers' comments express a larger awareness of the value of the reflection on the activities than the students do in direct comments. Still the students express in their diary notes reflections on their work. In the diaries the students comment and evaluate their craft work and their achievement. Awareness of his/ her action can be gathered over time in each diary note but few students write that they have observed this awareness.

Have the diary notes made you more observant of what you have done, what you have learnt and what you have experienced in the course of the work?

After the diary writing the students now have to make up their minds about their experiences in the work process in craft and design. The result shows that 21 % of the students answer yes, 28 % are doubtful and

50 % answer no. One of the goals of the process studies was to make the students more aware of the work process in craft and design. Which values can be expected after ten weeks of diary writing? Is it unfamiliar for the students to reflect on their own work in school?

Analysis - Reflection - Problem

In the main report of craft and design it appeared, as has been mentioned, that the students are happy and on the whole have a positive attitude towards craft and design. The picture presented in the main report is that the goals of the curriculum have been achieved. The students feel that they can influence and that they have a great influence on the content. Compared to other subjects the students feel that they have the most influence on craft and design. (Craft and design. The Main report. The Swedish Board of Education, report no 28)

In the diaries written by students and teachers during a ten week period solution of problems, perceptions of knowledge, perceptions of participation in the process of craft and design, happiness, emotional experiences, patterns of interaction and reflections on diary writing are described. The diaries describe parts of the internal and external work going on in the classrooms for craft and design and illustrate the students' and teachers' own understanding of their craft and design work. The diaries show that teaching craft and design can differ and that the working methods vary in the different craft and design groups (Johansson, 1994).

* **Why are the students happy in craft and design independently of the kind of craft and design?**
* **How is the students' learning process affected by different working methods which make various degrees of participation in the process of craft and design possible?**

All diaries produced by the diary group have been analysed. The results of the whole group has been presented (see Johansson, 1994), but it is also possible to study the groups one by one in order to illustrate in detail the interaction between working methods and result indicators. Within the "diary group" there are schools/classes with different working methods in the teaching in craft and design.

- **Which variations in the teaching in craft and design can a more detailed and comparative analysis show within the diary group concerning different schools and craft and design groups?**

In the present report a more detailed, comparative analysis of the whole diary group as a group is presented together with the variations within the diary group with regard to different schools and craft and design groups. The comparison is made with the "diary group's" answers in Questionnaire 2, the teachers' diaries and answers in the Teachers questionnaire and how this corresponds with the results of the large study in Questionnaire 1.

- **What differences exist in different working methods and perceptions of the teacher-student situation and how do they influence the students' participation in the process of craft and design?**

The "diary group's" answers to the questions in Questionnaire 1 and in the Teachers questionnaire do not deviate in any respect from the result received in the large sample. The variation in the pattern of answers in the diary group's schools are also to be found in the large sample.

In this study we have chosen a closer study of some of the schools which in the diary study have appeared to have different traditions regarding teaching in craft and design. The schools in the diary study are in this report called:

School A	**Aspskolan**
School B1 and B2	**Bokskolan**
School C	**Cypresskolan**
School D	**Dvärgbjörksskolan**
School E	**Ekskolan**
School F	**Furuskolan**
School G	**Granskolan**

BEST COPY AVAILABLE

Deeper and comparative analysis

ABOUT: WORKING METHODS - POSSIBILITIES TO INFLUENCE - CONTRIBUTORY INFLUENCE - KNOWLEDGE

Conditions

In the main report the student's perception of his/her possibilities to influence the teaching in craft and design is described. About two thirds of the students say that they have large possibilities. This and many other results in the main report are gratifying, but there are groups of students which do not perceive their craft and design classes as neither important nor engaging.

Teaching in craft and design differ and has a different content depending on the school and under which circumstances the teaching is done. Lindfors describes in the report The teaching in craft and design in theory and practice (1990) five different factors which influence the teaching, its content and how it is done:

* **Basic factors** *(allocation of hours, group size, working environment)*
* **Teacher factors** *(personality, attitudes, education)*
* **Situation factors** *(courses, teaching methods)*
* **Student factors** *(individual, group and social preparedness)*
* **Result factors** *(knowledge, valuations)*

In the Teachers questionnaire the teachers could appraise which factors limited the possibilities of teaching craft and design according to the curriculum (Craft and design. Main report. 1993, page 34). Basic factors like too little time and the size of the group influence according to most of the teachers their possibilities to teach according to the intentions of the curriculum. The same applies to the teacher factors

such as lack of opportunity of in-service training. The teachers' perceptions of result factors like knowledge and valuations have great importance for the manner of teaching.

When the teachers in the Teachers questionnaire decide which goals are important in the teaching in craft and design in school, most of them are of the opinion that basic knowledge of craft and design and basic proficiency in handling tools and equipment are the most important. Most of them also think that these goals can be achieved in a satisfactory way. Developing the students' cognitive skills, to examine, analyse, reflect and draw conclusions, are of great importance according to most of the teachers but only a few of them feel that they achieve these goals. When the teachers decide which goals they achieve in a satisfactory way they mention that goals with regard to the students' social skills, cooperating, participating in decisions, solving conflicts and developing the students' ability to take personal initiatives and responsibility are the ones which are most difficult to achieve (Craft and design. Main report. 1993, page 34). There are obviously large differences in what the teachers feel that they have succeeded with in their teaching. Do the teachers' answers to these questions show that they by force of habit use working methods where they can see easily measured goals such as the students' proficiency in craft techniques but which do not give room for the student's all-round development? The students themselves give in the evaluation a much more positive picture regarding the influence of craft and design on their all-round development. Is this experience reported by the students possibly more dependent on the character of the subject than on the teaching? The evaluation shows that the teacher chooses working methods from a traditional understanding of the subject's possibilities. Could a greater purposefulness from the teacher's side, during circumstances which are not immediately connected to the result of the teaching, lead to development of the working methods of the subject?

Differences in working methods within the "diary group" in the various schools are obvious in the diary part of the study and show the importance of the working methods for the students' learning. Students' and teachers' own words in the diaries complete and strengthen the results appearing in the questionnaire material. With these results as a starting-point we want to examine in deeper and comparative analysis the differences concerning variations in working methods and learning.

PLANNING

How the planning of the teaching in craft and design is done is of course of decisive importance for the choice of working methods and

content of the teaching. In the evaluation of the Teachers questionnaire almost all of the teachers (89 %) think that the curriculum is an important basis for the planning. A little fewer mention the local plan of action as important while more or less all the teachers in craft and design (97 %) consider the students' wishes as an important foundation. Regarding the actual planning work most of the teachers of craft and design say that the planning is made together with colleagues within their own kind of craft (71 %). Among the woodwork and metalwork teachers that is more unusual. A fourth of all teachers of craft and design (24 %) plan the school-year together with colleagues in the other kind of craft. Teachers in craft and design seldom plan their teaching together with other class teachers. Few craft teachers (16 %) plan together with the students for the whole school-year, some more (27 %) for a single term. Within a work area almost half of the teachers (44 %) claim that they plan together with the students while 13 % answer seldom or never. Do the craft and design teachers plan the teaching from the overlapping goals of the curriculum or is a detailed planning made for work areas and product? Does a detailed planning limit the room for the student's own ideas?

The "diary group's" teachers do not differ from the rest of the teachers in the total study when it comes to how they have answered the different questions in the Teachers questionnaire. Amongst the diary group's teachers (14 persons) all the textile teachers plan together with craft colleagues in their own craft compared to only two teachers in woodwork and metalwork. Textile craft teachers more often plan together with the students for a work area than do the teachers in woodwork and metalwork. Aspskolan and Bokskolan can be examples of how differently the teaching in craft and design can be planned:

At Aspskolan the teacher in woodwork and metalwork seldom or never plans together with his craft colleagues, while the teacher in textile craft plans together with colleagues within the same craft form for the whole school-year. In woodwork and metalwork and textile craft at Aspskolan the students work with a task given to them by the teacher (knife/sheath and baby overall).

At Bokskolan the teacher in woodwork and metalwork seldom or never plans together with his craft colleague. Instead he plans his teaching together with the students for the whole school-year. The teacher considers it very important to get the students' wishes and early evaluation as a basis for the planning. The textile teacher at Bokskolan plans for the whole school-year but together with craft colleagues within the same craft form and with the students for a work area. In woodwork and metalwork at Bokskolan the students work with completely different tasks (cupboards, shelves, cassette racks, amplifiers) and in textile craft with different articles of clothing.

POSSIBILITIES TO INFLUENCE

In the main report (1993, page 16) the results show that craft and design occupies a place apart in school with regard to the student's perception of possibilities to influence. Irrespective of the stage where the teacher allows the student participation in the planning work, the students feel that they have great influence. Even if the student does not take part in the planning work with the idea he/she can still make the object unique through personal solutions during the actual work. The originality of the product is strongly dependent on the freedom during the process.

The students who feel that they have a great possibility to influence are more numerous (65 %) than the students who feel that they have little or no possibility to influence (35 %). The craft forms differ in this respect. The students taking woodwork and metalwork feel that they have greater possibility to influence (74 %) than those who take textile craft (53 %) (See The Main report, Craft and design, page 15).

In the abundance of differences that appear when every teacher alone or together with others, teachers or students, plan the teaching and create working methods, two groups can be distinguished. These two groups separate the data material into two profile groups with the students' perception of the degree of influence as the starting-point:

The group "Can":

In this group the student feels that he/she ***has great possibility to*** *influence the teaching in craft and design. In the following this group will be called "Can" since the students* ***feel that they can*** *influence.*

The group "Cannot":

In this group the student feels that he/she ***has little or no possibility*** *to influence the teaching of craft and design. In the following this group will be called "Cannot" since the students* ***feel that they cannot*** *influence.*

Different opinions about the possibilities to influence have also appeared in the diary study. Schools and craft groups where the student is allowed to participate and influence (Bokskolan T/M and T, Cypresskolan T/M, Dvärgsbjörkskolan T) can be seen as model schools. The teaching in craft and design is described in more positive terms in the diaries and the solution of problems is discussed and commented on in great detail compared to the groups where the students work with fixed tasks (Aspskolan T/M, Cypresskolan T, Dvärgbjörkskolan T/M, Ekskolan T).

BEST COPY AVAILABLE

The groups "Can" and "Cannot" are extracted from the answers to **Questionnaire 1** and concern the total survey. The results presented in the main report of Questionnaire 1 are here subject to deeper analysis. As far as the students in the "diary group" are concerned statistical calculations show that the result of these students do not differ from the result of the large survey. Comparative analysis between these two groups shows that the group "Can" throughout has higher values as far as almost all the questions in the questionnaires are concerned, both in Questionnaire 1 and Questionnaire 2.

KNOWLEDGE - READINESS TO ACT

Under the headline Knowledge of craft and design - Readiness to act, the following view of knowledge is presented:

> *The knowledge a person has could be expressed as his/her actual readiness to think and act, i e the preparedness he/she has to meet and in thought and action deal with situations in life. This interpretation of knowledge is in accordance with the working methods in craft and design and preparedness in thought and action can be said to be an expression of the goals of craft and design. (Craft and design. The Main report. 1993, page 25).*

The following questions in Questionnaire 1 about knowledge and readiness to act have been subjected to a deeper and comparative analysis between the groups "Can" and "Cannot".

The following presents four questions from **Questionnaire 1** of the total survey which have been answered by the groups "Can" and "Cannot". Since all alternatives are not presented, the total percentage can be above as well as below 100 %.

What do you feel that you have learnt in craft and design during the years?
(Alternatives: Very much, A great deal, Little, Nothing)

Here are the responses for "Very much":

I have learnt to:

	Can	**Cannot**
Take initiative	*65 %*	*20 %*

fig. 8 | **Questionnaire 1, The students perceptions of what he/she has learnt in craft and design.**

To have an idea and to carry that idea through in practice is what we call creativity. Are you allowed to develop your creativity in craft and design?
(Alternatives: Very much, A great deal, Little, Nothing)

Here are the responses for "Very much":

	Can	Cannot
Allowed to develop creativity	*47 %*	*2 %*

fig. 9 | **Questionnaire 1, The students' perception of his/her creativity.**

As far as learning to take initiative and develop creativity are concerned the difference in perception between the two groups is very large.

How do you like craft and design?
The students had the possibility to decide how statements like "important", "fun", and "engaging" tallied with their own feelings.
In this attitude question about craft and design being important, fun and engaging the group "Can" has higher values than the group "Cannot". To the statement that craft and design is important the response was 63 % for the group "Can" and 27 % for "Cannot". The response to the statement that it is fun was 76 % and 43 % respectively. When it comes to the question if craft and design is engaging the difference is more pronounced with 59 % compared to 12 %. The perception of being able to influence or not is decisive for these attitude questions. Is it the possibility to be able to influence one's own teaching that is of decisive importance for the devotion to school work?
In Questionnaire 1 the students are asked what is important with the result of the craft and design education. The students in the diary group answer as follows:

Which result in craft and design is important to you?
(Alternatives: Very much, A great deal, Little, Nothing)

Here are the responses for "Very much":

	Can	Cannot
That the object is well made	*60 %*	*36 %*
Taking pleasure in the work	*67 %*	*39 %*

	Can	Cannot
That it turns into something	*64 %*	*43 %*
That it was my idea	*34 %*	*8 %*
That I get good marks	*42 %*	*42 %*
That I learn to use tools	*43 %*	*21 %*
That I learn to use a technique	*40 %*	*23 %*

fig. 10 **Questionnaire 1, The students' perception of the result of the craft and design education.**

"That it was my idea" is of course the most important factor for the student getting this possibility. As far as questions regarding quality and pleasure in one's work as well as learning are concerned the students in the group "Can" give a higher value. It is only when it comes to grades that both groups have exactly the same awareness of the importance of the results of the craft and design education.

The answers to the questions above point out that the students accept their situation, i e if they can or cannot influence the teaching.

How much could you decide what you will make in craft and design class?

When the students in Questionnaire 1 were asked how much they could decide about their craft and design education in the upper classes of the comprehensive school, most of the students in the group "Can" answer "Very much" (71 %) while only a few of the students in the group "Cannot" think that they could decide (20 %).

The students in the group "Can" consider themselves to have better knowledge in craft and design. In Questionnaire 1 there were questions of test character like "what do you need to think of when you buy an article of clothing" or "how do you mend a table". These questions were given points and summed up. As to knowledge and readiness to act the students in the group "Can" have a significantly higher average for all the questions and summations made. Students in the group "Can" also have a higher average grade in craft and design but a lower average grade in all other subjects except in SO subjects. Does a teacher in craft and design grade the student's ability to take initiative and to work independently to a higher degree than other teachers? Do the teachers in craft and design who dominate the work in the classroom prevent the students from the possibility of good knowledge and high grades in craft and design?

TYPES OF TEACHING

Both in the main report and in the diary study differences with regard to interaction between student and teacher and how these affect the working methods in the classroom have been obvious. The purpose of Questionnaire 2 was to let the students with the diary notes as a basis sum up their experiences in direct connection with the actual craft work. In this inquiry the student takes a stand about who had the idea and who decided on the craft work being done.

The students' answers divide the material into three most frequent types of teaching:

Student-student

Where the student provides the idea and also **decides** what he/she will make. In the following this group will be called "Student-student".

Teacher-teacher

Where the teacher provides **one** or **several ideas** or **a work area** and also **decides** what the student shall make. In the following this group will be called "Teacher-teacher".

Teacher-student

Where the teacher provides **one** or **several ideas** or **a work area** but where **the student decides** what he/she will make. In the following this group will be called "Teacher-student".

In Questionnaire 2 where the student has answered questions concerning idea and choice the 181 students (1 absent) who answered these questions were distributed as follows:

Student-student	**37 %**
Teacher-teacher	**35 %**
Teacher-student	**28 %**

These judgements refer to the students' standpoints. This could mean that students in the same class and with the same teaching could make different judgements, i e some think they belong in the Teacher-teacher group and some in the Student-student group. With the students' judgements as starting-point the most common working method seems to be that the teacher provides the idea and decides what

is to be made or lets the student decide based on the teacher's idea (35 + 28 %). Please observe that 63 % of the students work in a craft and design surrounding dominated by the teacher's ideas.

When making comparative analysis between the diary study and the material from the questionnaires one can see how several students from the same teaching group (class) in the two studies unanimously describe the same type of teaching. Teaching in craft and design can look very different in the different groups and the differences clearly appear in the students' diaries. When the students in the different craft groups in the inquiry are indicating who generated the idea and who decided what to be made, these indications are well in accordance with the perceptions given in the diaries.

The following three schools can be examples of the different types of teaching:

In Aspskolan (where the students worked with knives/sheaths and baby overalls) most of the students fall into the Teacher-teacher group and the rest into the Teacher-student group.

In Bokskolan (where all students worked with different craft objects and different clothes) most of the students fall into the Student-student group and a few students into the Teacher-student group.

In Granskolan (where all the students worked with cupboards and crocheting/knitting, embroidery) most of the students fall into the Teacher-student group.

If we compare different results of the groups called Student-student, Techer-teacher, Teacher-student interesting differences are noticed. The responses below show how many percent of each group answer with a given value. It should be observed that the sum of the percentages can therefore be above as well as below 100 %.

The groups have answered questions in **Questionnaire 1** as follows:

What do you think of craft and design?
(The alternatives were Agree completely, Agree partly, Do not agree at all)

Here are the responses "Agree completely":

	Student-student %	Teach-teach %	Teach-Student %
Craft and design is an important subject	*37*	*21*	*24*
Craft and design is a nice subject	*40*	*31*	*38*
Craft and design is very engaging	*29*	*9*	*8*

fig. 11 **Questionnaire 1, The student's perception of what he/she feels about craft and design.**

The students find craft and design a nice subject independently of which group they belong to. The difference between the groups is best noticed when the question whether craft and design is important is asked and it is most obvious when it comes to the students' engagement in craft and design. The result shows that the students given the greatest possibility to influence the craft work more often express engagement in the subject. Engagement appears to be strongly decisive in comparative analysis of questions concerning knowledge of craft and design.

The same students, i e those who have the greatest possibility to influence, also believe that they can take part and influence their craft and design teaching at the upper level of the comprehensive school. To the question how the students think that they could take part and decide what to make in craft and design, the students belonging to the Student-student group answer with a value that is considerably higher (32 %) than the students who belong to the Teacher-teacher group (6 %). The value in the Teacher-student group is 16 %. As was the case of the students expressing a clear connection between student participation and engagement they also express in clear terms the connection between the possibility to influence and the belief that they can take part and decide what to make in craft and design. These values refer to the students who believe in their ability to influence teaching in craft and design "very much". If we instead turn our attention to the students who have answered "little" or "not at all" to the question about ability to influence, we can see that every fourth student in the Teacher-teacher group (24 %) has this low self-esteem while the corresponding value for the Student-student group is 4 %. The students who are not allowed to participate in decisions do not believe in their ability to do so!

Do these results show that the student adapts to the working methods decided by the teacher and thereby also accepts a passive role when instead he/she could be active - an inability which is not of his own making? Do the results show that a too teacher dominated teaching also develops an inability in the student to dare or to be able to take an active part in school work?

What do you think you have learnt in craft and design during the years?
(Alternatives: Very much, A great deal, Little, Nothing)
Here are the responses for "Very much"

	Student-student %	Teach-teach %	Teach-student %
I have learnt to:			
Take initiative	35	19	22
Solve problems my own way	34	10	28
Dare believe in myself	28	10	18
Feel pleasure in something I have made myself	47	36	26

fig. 12 **Questionnaire 1. The student's perception of what he/she has learnt in craft and design.**

The Student-student group shows higher values than the other groups for the answer "Very much" as to their perception of ability to take initiatives, solve problems in their own way and dare believe in themselves. This confirms the assumption that when the students have influence on their education they consider themselves to get better results regarding the statement above. Independently of group belonging the students feel pleasure in something they have made themselves.

The above is from the results of the Diary group in Questionnaire 1. After ten weeks of craft work and diary notes the same student groups answer questions out of **Questionnaire 2.**

The obvious result of ten weeks of craft work can be a big help in order to be able to reflect on what one has learnt and which readiness to act this can provide. It was therefore natural to include questions about the student's own valuation of the craft process he or she has just experienced in this inquiry:

What was important when choosing type of work?
(Alternatives: Very much, A great deal, Little, Nothing)

Here are the responses for "Very much"

	Student-student %	Teach-teach %	Teach-student %
It was fun	42	27	52
I learnt something new	19	27	18
It was something I needed	25	11	16
The product looked good	32	15	32

fig. 13 **Questionnaire 2. The student's perception of what was important for the choice of product.**

That the work is fun and that the product looks good are the most important aspects for the students who were allowed to make their own choice (i e those in the Student-student and Teacher-student groups). That the product is something that is needed is most important for the student who worked from his/her own idea. To learn something new is most important for the student whose teacher is responsible for both idea and choice. Could this be because the teacher has explained to the student that the motive for the idea and the choice is to learn something new?

Has the teacher discussed with the group how he/she judges results and grades them? Do you feel justly judged?
The students were asked if their teacher discussed with the group how he/she judges results and grades them. In the Student-student group 40 % say that they discussed grades with their teacher. In the Teacher-teacher and Teacher-student groups the value is 26 %. The teacher who allows the student to have the largest influence on craft and design teaching seems to be the one who finds the most reason to discuss grades with their students. This discussion also has impact on the student's perception of being justly judged.

After ten weeks of craft work together with diary notes the students get the chance to reflect on and find out what they have learnt.

If you look back at your work in craft and design, what do you think that you have learnt?
(Alternatives: Manage well, Manage rather well, Doubtful and Cannot manage)

Here are the responses "Manage well":

	Student-student %	Teach-teach %	Teach-student %
To be able to plan and carry out a similar work myself	44	22	36
To understand instructions, drawings and patterns	46	26	38
To use tools, equipment and machinery needed	43	39	50
To think of new ideas of my own	54	27	42
To carry out my ideas in practice	41	13	32
To solve problems appearing during the course of work	35	19	30
To choose the right material	31	16	30

fig. 14 **Questionnaire 2. The students' perception of what they have learnt in craft and design.**

In questions concerning the student's readiness to act, the Student-student group shows a larger self-confidence than do the other groups in almost all the answers. The difference is particularly large when it concerns thinking of and carrying out ideas. The difference is also significant when it comes to planning and carrying out a piece of work, understanding instructions and drawings or solving problems. All the groups think that they have learnt to use tools and machinery well. Comparing the Teacher-teacher group with the Student-student group in several questions one can see that the latter group has almost twice as high values. The model schools Bokskolan, Aspskolan and Granskolan (page 34) follow the three groupings in this respect too.

Do you feel happy in craft and design class?

That the students feel happy in craft and design is apparent in their answers (alternatives: Yes, No or Doubtful). The values are much higher for all the groups. The Student-student group has the value 81 %, the Teacher-teacher group has 78 % and the Teacher-student group 90 % for "Yes". The comfort and well-being in the classroom seem to be independent of student or teacher influence. Since the values are so

alike they indicate that the students' well-being in craft and design is no measure of the quality of the teaching. Do "satisfied students" restrict the development of working methods in the classroom?

The three model schools Bokskolan (Student-student), Aspskolan (Teacher-teacher) and Granskolan (Teacher-student) fall into respective group about how they have answered in Questionnaire 2, but here the students' diary notes also give a broader description of how comfort and well-being influence work in the classroom (Johansson, 1994 page 32-36). In the main report some factors influencing comfort and well-being are presented. In the question below one can see which factors of comfort are common and distinguished respectively for the three groups in Questionnaire 2.

Which of the statements below correspond with your own perception of craft and design?
(Alternatives: Totally agree, Almost Agree, Partly agree, Do not agree)
Here are the responses "Totally agree":

	Student-student %	Teach-teach %	Teach-student %
The atmosphere is good	55	41	44
You feel confident	52	32	38
You are allowed to take initiatives	54	31	42
You learn to make things that are useful	49	24	44
We have a good teacher	41	45	38
You learn to take responsibility	35	21	22
You can talk and work at the same time	62	62	62
You are allowed to solve real problems	31	19	20
You are allowed to carry out your own idea	49	24	34
You are allowed to work without being compared to others	41	27	40

fig. 15 | **Questionnaire 2, The students' perception of craft and design.**

The factors concerning the feeling of comfort and well-being which are common to all the groups are that one is allowed to talk and work at the same time, that the atmosphere is good and that one has a good teacher. For the Student-student group factors like confidence, initiative, idea and to be allowed to make usable things are the ones the are the most distinguishing when you compare them with other groups. Specially interesting is also here to compare the groups Student-student and Teacher-teacher. To be allowed to carry out one's own idea and to learn things that can be of use in the future present the largest difference between these two groups when it comes to different factors influencing comfort and well-being. The importance of one's own idea for both well-being and evaluation of what the student has learnt (see fig. 14) are clearly expressed by the students. To be allowed to solve real problems och be able to work without being compared to others are also factors important to the well-being in the classroom. Is it this multidimensional valuation that expresses the unique character of craft and design? To be able to use one's own idea for planning and carrying out a craft project exercises the student's ability to handle unfamiliar situations in a practical way. During the process of the work problems which have several feasible, correct solutions appear. The result, the product of this interior and external activity can be called Knowledge of craft and design.

fig. 16 | **Questionnaire 2, The students' perceptions of their craft and design teaching.**

BEST COPY AVAILABLE

Discussion

Both in the large and national survey and in the deeper analysis supported by the diary material the students' express the positive experiences they have had in craft and design class. The students claim that they feel engagement and joy in the activity where they are given the opportunity to creative work with different materials and all machinery, tools and equipment in the classroom. The knowledge grown out of the work in craft and design is perceived as useful for both their total personal development and their readiness to act in the future. The teacher's way of meeting the student, of utilizing and strengthening the wish to be active, is important and decisive for the quality of the work in the classroom. The subject's experimental and investigating character is inspiring and creates comfort and well-being. Is this a possibility or a dilemma for craft and design? Do satisfied students limit the development of the working methods in the classroom?

The analysis has shown that it is important for the course of the work process as well as for the result of the school work that the student has a real influence on the whole process from idea and planning to valuation. During the course of the work there are problems to which there are many conceivable, correct solutions and which give impulses to new ideas and decisions. This continuous interaction between what we in daily speech call theory and practice could be called interior and external activity. The result, the product of this interior and external activity, can be called knowledge of craft and design. To be allowed from one's own idea to influence the process of carrying out a craft project has in this survey been found to have a decisive importance for the valuation of the quality of this knowledge. To have an idea of one's own and the participation in the planning are in the deeper analysis found to have consequences for the continued work. In the schools where the student has an opportunity to influence, the students have better results in the evaluation of all the questions. In the deeper analysis it has been found important that the teacher conducts a teaching where he is open to the student's thoughts, reflections and needs.

When an idea is born or when the student accepts the idea as his own it is important that the teacher listens to and shows respect for the student's wishes.

What do differences in sketch and planning mean for the continued work in the two craft forms? Texile craft is often governed by ready-made patterns and drawings. The students are trained to understand written instructions, text and illustration and to work from them. The instructions included with the patterns are made for grown-ups with large knowledge. One of the goals in textile craft is to acquire knowledge to understand and follow those patterns and instructions. The risk is that the student slavishly follows the instructions and by this does not find his/her own solutions in order to acquire an understanding of his/her own. In woodwork and metalwork the craft project most often originates from the student's own sketch or drawing of the craft object. This allows the student to decide on and influence the design but also to reflect on his/her idea and think over the construction. The differences between the craft forms are obvious in the survey. To make one's own drawing or sketch can in both craft forms be a help for the student to structure thoughts and ideas. The knowledge available in a ready-made pattern, description or drawing can only be developed by the student when the knowledge is needed and understanding of it exists. Teaching in craft and design would gain in quality if the parts of the craft process concerning idea and planning were discussed in detail by teachers and students.

All the teachers in craft and design think that the students' wishes are important as basis for the planning. The deeper analysis show the differences in the students' participation at the planning stage. The teachers think that the students' wishes and evaluations are a starting-point for the planning but the analysis shows that they themselves do most of that. The teachers in the two craft forms often plan their teaching separately or together with colleagues of the same craft form. The latter is most common among the textile teachers. The students' possibility to influence is most often limited to details in one by the teachers team already chosen technique or work area. The planning for the whole school year done by the teachers in the two craft forms leaves little room for the student's influence. Do the teachers lock each other into a common planning where the students are not taking part and where older, more detailed curricula with regard to craft techniques govern? In the diary study it has been found how the teaching in craft and design differ between the different schools and one can see a clear pattern where the students' higher or lower degree of participation at the planning stage decides the working methods in a class. The students describe in the diaries their solutions of problems more detailed with a more positive attitude in all respects in the schools, e g Bokskolan,

where the working methods are based on a teaching where the student has some influence. In the Teachers questionnaire the teachers claim that the teaching should originate from the students but in the diaries a teacher dominated teaching is described instead, e g Aspskolan. In schools like Granskolan the students are lulled into belief that they are allowed to participate in decisions. What can the students influence in schools like Granskolan? Is it the choice of material, model, colour and form of an object? The results show how the teacher creates his/her own teaching with working methods that give more or less opportunity for the student to influence the craft process. It is also obvious how different working methods strengthen or restrict the possibilities to achieve the goals of the education. Is this a problem not only in craft and design but in the whole school? In craft and design the students claim that they feel that they have large possibilities to influence the teaching compared to other subjects. Is it the lack of textbooks that distinguish craft and design from other subjects that make the students perceive a strong feeling of participation? In the problem solving way of working in craft and design there already exist working methods which make the students experience a feeling of comfort and meaningfullness. Developing the best of the working methods in craft and design teaching could create possibilities for engagement and a wish to learn not only in the subject craft and design but in the whole school.

That the possibilities of interaction between the different subjects in school are not utilized is apparent in the evaluation. The teachers in craft and design want in-service training and with regard to this the results show that in-service training together with class teachers and other specialist teachers is very necessary. The training of teachers has a great responsibility when it comes to developing future teachers' ability to cooperate. Does the training of teachers take enough responsibility when it comes to breaking the isolation between different subjects and their teachers? The results of the craft and design evaluation of working methods and their importance for the quality of knowledge can contribute to the development in questions regarding the work of the whole school as well as the cooperation in in-service training and training of teachers.

In this analysis it is obvious how the material falls into "Can" and "Cannot" groupings. Through the results of these groupings in the different questions of the evaluation, we can conclude that the student's possibility to influence is of great importance to the school work. Large possibilities to influence render large engagement, good learning, large awareness of the subject's as well as one's own possibilities. The student also learns to take an active or passive role according to the situation in question and does not believe that he/she can or want to

change this. The evaluation has shown that if the interaction between teacher and student works and when the student is allowed to develop his/her own ideas, the student gets as a result of the craft work a better preparedness to be able to and dare use his/her knowledge of craft and design in practice.

If we compare the different results of the groups called "Student-student", "Teacher-teacher" and "Teacher-student" interesting differences are noticed. The three groups have been formed out of the material in Questionnaire 2. In this inquiry one can think about questions concerning the work process with the support of the experiences during the ten weeks documented in the diaries. Here it is possible to see how the 181 students in the "diary group" first answered the questions in Questionnaire 1 and at the same time how they described in their own words the teaching in craft and design in their diaries. In the same way one can follow the teachers from the Teachers questionnaire and the teachers' diaries. The inquiry material has been worked at quantitatively but also qualitatively while the diaries have been analysed qualitatively. The methods complete each other since a large statistical material from the questionnaries has been compared to the students' and teachers' possibility to describe teaching in craft and design in their own words in their diaries. In this deeper study we can see how the three groupings devide the material into clearly identifiable parts. The "Student-student" group has the highest results in most of the knowledge and attitude questions existing in the evaluation instrument, while the "Teacher-teacher" group stands for the lowest results. The teaching where the work emanates from a teacher dominated working method does not promote absorbtion of what the teacher wants to teach. The results show that serious questions regarding this type of teaching in craft and design must be raised. The working method emanating from the student's full participation in the whole process has in the evaluation shown itself to be superior with regard to the student's all-round development and learning. We can now throw away/scrap the rigidly governed planning. We need no longer be afraid that the students will not learn. Even what we by tradition consider to be classical knowledge of craft and design is better learnt when initiative, influence, choice emanate from the student's qualifications instead of the teacher's very planned planning.

The craft process has its own value because it is *real*, both when it emanates from the teacher's or the student's idea. The ongoing process and the result of it is tangible for the student. When problems show up the student is allowed to use his/her total thought process and preparedness for action with sense impressions but also the complete knowledge that he/she has gathered inside. The student is in craft work given the chance to use incorporated knowledge like basic knowledge

of mathematics, Swedish language and other subjects in real situations. By giving the student ready-made solutions and ideas the student is deprived of the possibility to develop in these respects. It is apparent in the evaluation that differences in working methods influence the process and also cause differences in results, i e knowledge. Becoming aware of the process, of what one has done, learnt and experienced, can perhaps be better understood by the students if they are given the opportunity to evaluate teaching in craft and design in the comprehensive school.

Works of reference

Lindfors, L. (1990). **Slöjdundervisning i teori och praktik**. Rapport 32/1990. Institutionen för lärarutbildning, Åbo Akademi, Vasa.
[**Craft and design in theory and practice**. Report 32/1990. The department of training of teachers, Åbo Academy, Vasa.]

Skolverket, (1993). **Slöjd, Huvudrapport, Skolverkets rapport nr 24.** Stockholm: Liber Distributionstjänst.
[The Swedish Board of Education (1993). **Craft and design in school. The Main report, The Swedish Board of Education report 24.** Stockholm: Liber Distribution.]

Johansson, M. (1994). **Slöjdprocessen - Arbetet i slöjdsalen. Dagboksanteckningar.** Rapport. Institutionen för slöjd och hushållsvetenskap, Göteborgs universitet.
[Johansson, M. (1994). **The work processes in craft and design. The work in the classroom for craft and design. Diary notes.** Report. Department of Hand Crafts and Home Economics, Göteborg University.]

PRACTICAL STUDIES GRADE 9

The work processes in craft and design

QUESTIONNAIRE 2

We would like you to summerize what you have done, what you have learnt and what you have experienced in craft and design during the weeks when you have written your diary. Take out your diary and use it as support for your memory.

Make a sketch of the object you have made
(You may also include a photograph if you wish).

1.

2. **Describe in words what you have done**

3. The work usually starts with an idea. How did you get the idea to your product?

I had my **own** idea (_)

The teacher had an idea (_)

The teacher had several ideas to choose from (_)

The teacher suggested a theme (_)

A friend had an idea (_)

I got my idea from **a magazine/book** (_)

Somebody **at home** gave me an idea (_)

Other..... (_)

4. Who decided what you should make?

I myself (_)

My teacher (_)

Somebody else..... (_)

5. What was important at the choice of product?

Mark appropriate square on **each** line

	Very important	Important important	Less important	Not
It was fun	(_)	(_)	(_)	(_)
I learnt something new	(_)	(_)	(_)	(_)
It was something I needed	(_)	(_)	(_)	(_)
The work was quick	(_)	(_)	(_)	(_)
The work was easy	(_)	(_)	(_)	(_)
The product looked good	(_)	(_)	(_)	(_)
Other	(_)	(_)	(_)	(_)

6. How did you plan your work?

I made **my own** sketch, drawing or pattern (_)
I used **a ready made** sketch, drawing, pattern or picture (_)
I chose the material myself (_)
Other..... (_)

7. What problems did you encounter during the course of work?

8. How did you solve those problems?

9. Did your work turn out the way you planned it?
If not - what happened?

10. Did your teacher discuss with the group his/her way of judging results and grading them?

Yes (_) No (_) I don't know (_)

11. Do you feel that you have been judged justly?

Yes (_) No (_) I don't know (_)

If not - why?

12. Do you enjoy craft and design?

Yes (_) No (_) Doubtful (_)

13. Which of the statements below correspond with your own perception of craft and design?

	Totally agree	Almost agree	Partly agree	Do no agree
We have a very nice classroom	(_)	(_)	(_)	(_)
The classroom is well equipped.	(_)	(_)	(_)	(_)
There is ample material, e g wood and cloth	(_)	(_)	(_)	(_)
The atmosphere is good	(_)	(_)	(_)	(_)
You feel confident	(_)	(_)	(_)	(_)
You are allowed to take initiatives	(_)	(_)	(_)	(_)
You are allowed to work at your own pace	(_)	(_)	(_)	(_)
You learn to make things that are useful	(_)	(_)	(_)	(_)
You are allowed to make something that is needed	(_)	(_)	(_)	(_)
You learn to take responsibility	(_)	(_)	(_)	(_)
You are allowed to work and talk at the same time	(_)	(_)	(_)	(_)
You are allowed to solve real problems	(_)	(_)	(_)	(_)
You are allowed to carry out your own idea	(_)	(_)	(_)	(_)
You are allowed to work without being compared to others	(_)	(_)	(_)	(_)
Other				

14. If you look back at your work in craft and design through your diary notes, what do you think that you have learnt?

Mark the appropriate square on each line.

	Manage well	Manage fairly well	Doubtful manage	Cannot
To be able to plan and carry out a similar piece of work myself	(_)	(_)	(_)	(_)
To understand instructions, drawings or patterns	(_)	(_)	(_)	(_)
To use necessary tools, equipment and machinery	(_)	(_)	(_)	(_)
To create new ideas	(_)	(_)	(_)	(_)
To carry out my ideas in practice	(_)	(_)	(_)	(_)
To solve problems that appear during the course of the work	(_)	(_)	(_)	(_)
To choose the right material	(_)	(_)	(_)	(_)

15. Have the diary notes made you more aware of what you have done, what you have learnt and what you have experienced during the course of the work?

Yes (_) No (_) Doubtful (_)

BEST COPY AVAILABLE

Skolverket
The Swedish Board of Education
KUNGSGATAN 53 S-106 20 STOCKHOL